Beans have a desirable nutritional profile, with great amounts of fiber, high quality protein and low lipid content. Carioca and black beans are an important part of Brazilian southwest diet. This study aimed to produce whole seed flours from carioca bean (Perola cultivar) and black bean (Uirapuru cultivar) and to determine their chemical composition. To obtain the flours, beans were cooked with filtered water (1:2) for 45 minutes, freezed at -24°C and dried by lyophilization at -80°C, for 48 hours. Dryed beans were milled and stored in freezer. Carioca bean’s whole seed flour presents (g.100g⁻¹) 21.00 protein, 57.2 carbohydrates, 1.90 lipids, 26.00 insoluble fiber and 2.60 soluble fiber, 4.5 ash and 15.4 moisture. Black bean’s whole seed flour presents (g.100g⁻¹) 23.40 protein, 54.00 carbohydrates, 1.60 lipids, 25.50 insoluble fiber and 3.2 soluble fiber, 4.3 ash and 16.7 moisture. The amino acids profiles are in accordance with the standard reference, except for the tryptofan deficiency in both flours. As lyophilization removes moisture, increasing the shelf life of foods, preserves nutritional profiles and sensorial characteristics, these flours could be useful for food industry to increase protein and fiber in many products.